

CLAIMS

1. A device for use in reducing noise in an audio signal containing noise and a target signal, the device comprising:
at least two input channels each receiving a signal from a respective microphone, at least two of the microphones having mutually different directionality;
signal processing means in connection with the input channels, which provides input signals to the signal processing means;
a receiver in connection with the signal processing means;
the signal processing means being adapted to process the signals by means of an independent component analysis method based on differences of signal-to-noise ratios of the inputs signals in relation to a desired target signal, the processing comprising determining whether statistical dependent signal elements are present and removing at least part of the unwanted signal elements, thereby enhancing other parts of the audio signal.
2. A device according to claim 1, wherein the device comprises at least a directional microphone and an omni-directional microphone.
3. A device according to claim 1, wherein two or more output signals are produced and where means are provided for switching between the two or more output signals or combinations of these.
4. A device according to claim 1 or 2, wherein two or more output signals are produced and where automatic switching means are provided for switching between the two or more output signals according to a predetermined scheme.
5. A device for use in reducing noise in an audio signal containing noise and a target signal, the device comprising:
at least two microphones and beamforming means to make a beamforming of the input signals from the microphones and hereby adding directionality to the signal of at least one of at least two input channels;

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signal processing means in connection with the input channels, which provides input signals to the signal processing means;

a receiver in connection with the signal processing means;

the signal processing means being adapted to process the signals by means of an independent component analysis method based on differences of signal-to-noise ratios of the inputs signals in relation to a desired target signal, the processing comprising determining whether statistical dependent signal elements are present and removing at least part of the unwanted signal elements, thereby enhancing other parts of the audio signal.

6. A hearing aid comprising at least two microphones each having a different signal-to-noise ratio in relation to a desired target signal; signal processing means in connection with the at least two microphones; an amplifier in connection with the signal processing means; a receiver in connection with the amplifier for outputting a signal from the amplifier; the signal processing means being adapted to process the signals by means of an independent component analysis method based on the input from the two microphones having a mutually different signal-to-noise ratio in relation to a desired target signal, the processing comprising determining whether statistical dependent signal elements are present and removing at least part of the unwanted signal elements, thereby enhancing other parts of the audio signal, wherein the hearing aid comprises a directional microphone and an omni-directional microphone.